

Petitioners' Exhibit B

U S ROUTE 6 AT PATRIOT WAY TRAFFIC/RAILROAD SIGNAL REPORT

Prepared for:
Village of Annawan &
Illinois Department of Transportation

May 15, 2007

TABLE OF CONTENTS

Part 1 EXECUTIVE SUMMARY

- 1.1 Introduction
- 1.2 Existing Conditions
- 1.3 Recommendations

Part 2 EXISTING CONDITIONS

- 2.1 Physical Characteristics
- 2.2 Traffic Signals
- 2.3 Railroad Signals
- 2.4 Remarks

Part 3 TABLES AND FIGURES

PART 1 EXECUTIVE SUMMARY 1.1

INTRODUCTION

The purpose of this report is to document relevant data with respect to the proposed operation of the highway traffic signal subsystem and the railroad crossing signal subsystem at the proposed grade crossing of U S Route 6 with Patriot Way in Annawan, Illinois. The scope of this report centralizes on the electrical interface between the two systems, with primary focus on critical timing characteristics, which affect the synchronization of the "total system."

The Village of Annawan is in the process of preparing engineering plans to construct Patriot Way from 2900 E to U S Route 6 with a new intersection with traffic signals at U S Route 6. As part of the improvement a new at-grade crossing of the IAIS tracks will be created with railroad preemption for the proposed traffic signal at U S Route 6. Construction of the new roadway is anticipated to start in 2007 and be completed by 2008. The IAIS will construct the physical crossing surface and the related grade crossing signals at the time of construction.

1.2 EXISTING CONDITIONS

1.2.1 Physical Characteristics

U S Route 6 is a rural two-lane highway that is part of the Federal Highway System. This highway has a low traffic volume and is not expected to dramatically increase due to this improvement. Township Road 2900 E is the closest existing roadway that intersects both the IAIS Railroad and U S Route 6. This road is to be closed immediately following construction.

1.3 RECOMMENDATIONS

1.3.1 Proposed Roadway Improvement

Patriot Renewable Fuels, LLC is in the process of constructing an ethanol plant in the Village of Annawan, Illinois. As part of this construction project Patriot proposes to construct a roadway (Patriot Way) that will connect the Lathrop Street extension (a federally funded project through the Village of Annawan) to U S Route 6. Constructing this new roadway will require a new railroad crossing to be installed. The railroad crossing will be approximately 75 feet north of the intersection of U S Route 6 and Patriot Way. Due to the proximity of the rail crossing and the intersection, signalization will be installed. The signalization for the intersection will be interconnected to the railroad signalization (see Appendix for Phasing). Left and right turn lanes will be added to US Route 6 for the purpose of storing traffic on U S Route 6 during a train. The traffic volumes do not warrant signalization on US Route 6, but signals will be installed as a safety measure.

1.3.2 Highway Traffic Subsystem

Since this is a proposed new roadway, field measurements of the Track Clear Green time could not be made. Estimation of this time was developed assuming a vehicle queue length of 115 feet which represents the distance from the north rail of the tracks to the extension of the north edge of eastbound through lane on U S Route 6.

From this scenario, the following recommendations are made regarding the proposed highway traffic signal subsystems:

- The highway traffic signal subsystem should be interconnected to the railroad crossing. Based on *Recommended Practice of the Institute of Transportation Engineers* Preemption of Traffic Signals at or Near Active Warning Railroad Grade Crossings, when the potential exists of traffic queues from highway traffic extending across a nearby rail crossing, the traffic subsystem should be interconnected to the rail crossing subsystem. The normal sequence of highway intersection signal indications should be preempted upon approach of trains to avoid entrapment vehicles on the crossing by conflicting aspects of the highway traffic signals and the grade crossing signals.
- Pre-signals should be installed on Patriot Way because of the distance between the tracks and the edge of the traveled lanes on U S Route 6. The pre-signals should be installed on the railroad signal cantilever.
- Traffic signal controller timings shall be provided to clear the track clearance preemption interval in the shortest possible time.
- Install the following signs concurrent with the installation of the proposed signals. The proposed placement of the signs is shown on **Figure 2**.
 - STOP HERE ON RED
 - NO TURN ON RED
 - DO NOT STOP ON TRACKS
- Supplemental pavement markings consisting of 12-inch white diagonals, should be installed at the railroad crossing. The diagonals should be installed in the area bounded by the extension of the nearest edge of pavement of U S route 6 and the railroad tracks.
- Internally illuminated NO RIGHT TURN signs should be activated for the westbound U S Route 6 right-turn movement during the preemption sequence.

1.3.3 Railroad Signal Subsystem

The proposed traffic signal installation should be interconnected to the railroad signal subsystem.

Vehicular crossing gates should be provided. The vehicle gates should be installed on both sides of the railroad tracks for both directions of traffic.

The recommended minimum railroad warning time is 35 seconds as shown in Appendix.

PART 2: EXISTING CONDITIONS

2.1 PHYSICAL CHARACTERISTICS

Type:	T" intersection of U S route 6 with Patriot Way.
Location:	Village of Annawan.
Pedestrian Crossing	None
School Crossing	None
Pavement Markings	See IDS
Roadway Lighting	See IDS
Rail Proximity	South rail of track is 75 feet from the north edge of through lane on U S Route 6.
Railroad Crossing	Two sets of tracks. Concrete Crossing to be installed by IAIS
Railroad Gates	To be installed by IAIS.

2.2 TRAFFIC SIGNALS

To be installed by IAIS.

2.3 RAILROAD SIGNALS

To be installed by IAIS

2.4 REMARKS

Pedestrian Activity:	None
Depot:	No
Passenger Platforms	No

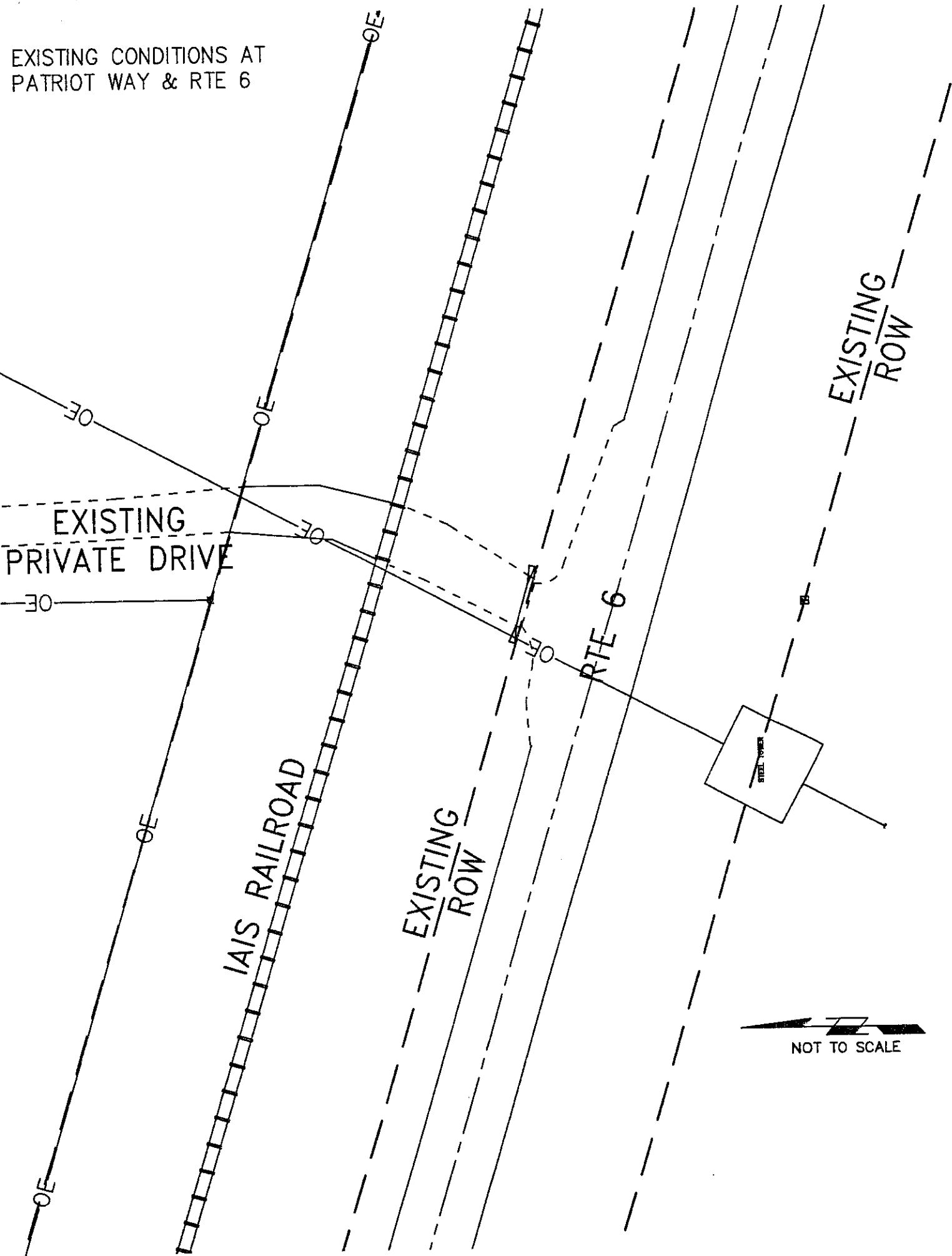
PART 3: TABLES AND FIGURES


3.1 Recommended Timing

	Time Needed (sec.)
Delay ¹	1
Minimum Green	1
Yellow Interval	5.5
All Red Interval	1.5
Time Before Southbound Patriot Way Receives the Green Interval (sub-total)	9
Track Clearance (Min. Southbound Patriot Way Phase)	19.5
Railroad Warning Signal Activation (30 sec base + 5 sec response)	35
Minimum Railroad Warning Time Required (sec.)	54.5

¹ One (1) second will be programmed into all railroad pre-emptors to limit false calls.

EXISTING CONDITIONS AT
PATRIOT WAY & RTE 6



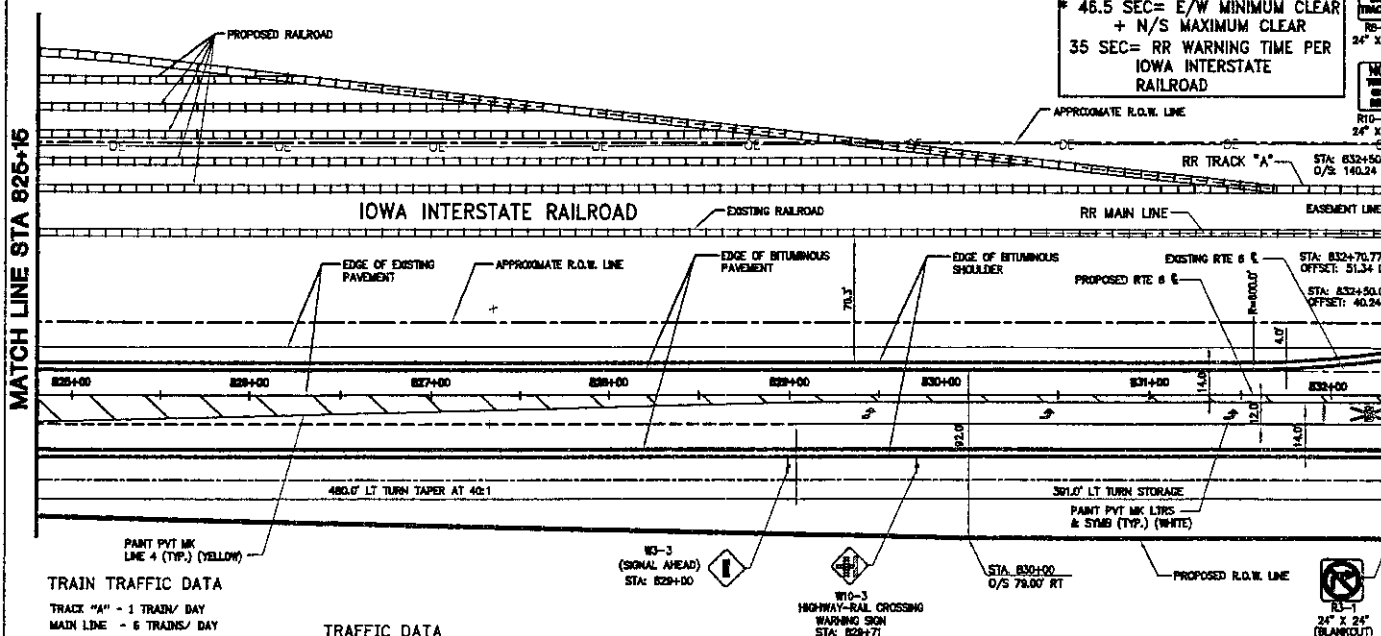
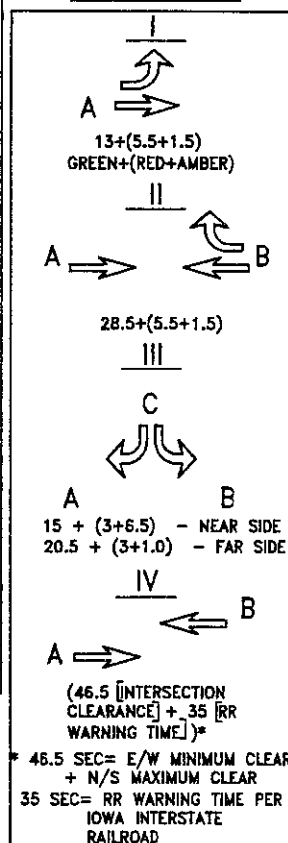

NOT TO SCALE

CAPACITY DESIGN STUDY

3 PHASE	AREA NON CBD		PEAK HOUR FACTOR 0.95			
80 SEC. CYCLE	AVERAGE INTERSECTION DELAY		A.M. 3.1 SEC.		INTERSECTION LEVEL	
SIGNAL TYPE ACTUATED	PROGRAM USED SYNCHRO		P.M. SEC.		OF SERVICE	
APPROACH	A		B		C	
BUS STOP CONDITION						
PARKING MANEUVER/HR.						
PEDESTRIANS						
ARRIVAL TYPE	3	3	3	3	3	3
LANE UTILIZATION FACTOR	1.0	1.0	1.0	1.0	1.0	1.0
BASE SATURATION FLOW	1900	1900	1900	1900	1900	1900
D - DISTANCE	390 FT	-	-	390 FT	-	75 FT
LANE GROUP	L	T	T	R	L	R
LANE WIDTHS (FEET)	12	14	14	12	13	13
GREEN TIME (SECONDS)	A.M. 20.5	20.5	20.5	20.5	10.5	10.5
	P.M.					
G/C RATIO CALCULATED	A.M. 0.91	0.91	0.91	0.91	0.09	0.09
	P.M.					
LANE GROUP DELAY (SECONDS)	A.M. 2.2	1.9	1.9	1.4	14.2	9.8
	P.M.					
V/C RATIO	A.M. 0.01	0.07	0.07	0.01	0.13	0.06
	P.M.					
LEVEL OF SERVICE	A.M. A	A	A	A	B	A
	P.M.					
2028 30TH MAX. HOUR TRAFFIC	A.M. 17	70	70	17	17	5
	P.M.					
SHT_IDS A.101663	A.M.					
HOURLY TRAFFIC	P.M.					

NOTE: A.M. PEAK IS DESIGN HOUR.

PHASING DIAGRAM

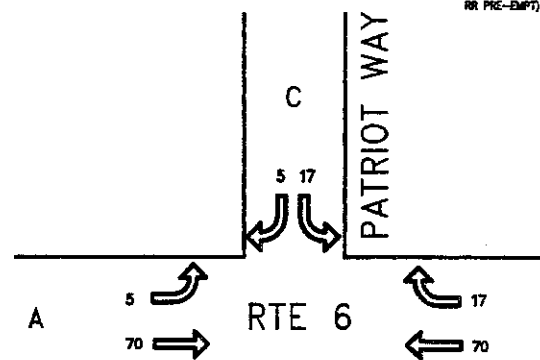


TRAIN TRAFFIC DATA

TRACE "A" - 1 TRAIN/ DAY
MAIN LINE - 6 TRAINS/ DAY

TRAFFIC DATA

MOVE- MENT	YEAR 2008 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX HOUR	ESTIMATED PERCENT INCREASE BY ---	YEAR 2028 30TH MAXIMUM HOUR TRAFFIC		ESTIMATED PERCENT INCREASE BY ---	YEAR 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.			A.M.	P.M.		A.M.	P.M.
AB	4		68		5				
AD	-		-		-				
AC	52		68		70				
BA	4		68		5				
BC	16		11		17				
BD	-		-		-				
CD	-		-		-				
CA	52		68		70				
CB	16		11		17				
DC	-		-		-				
DB	-		-		-				
DA	-		-		-				
TOTAL A	112				150				
TOTAL B	136				174				
TOTAL C	40				44				
TOTAL D	-				-				

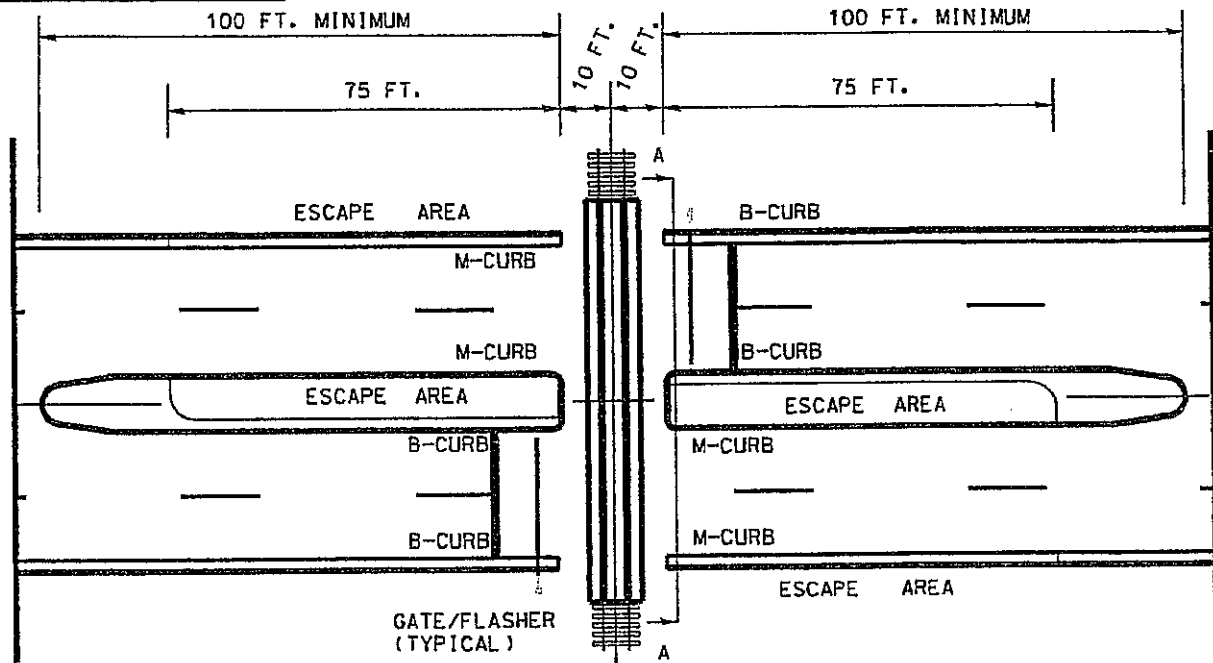


2028 PEAK HOUR DIAGRAM (A.M.)

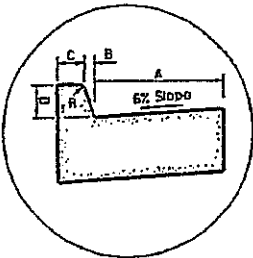
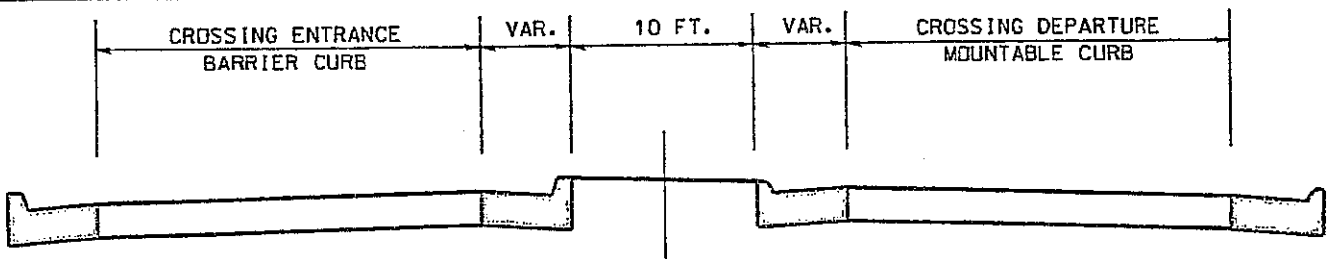
NOT TO SCALE

PLOT DATE = 4/20/2015
FILE NAME = 4/20/2015
PLOT SCALE = 1/4" = 100'
USER NAME = 4/20/2015

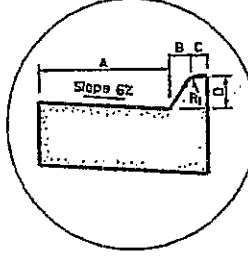
PLAN VIEW



CROSS SECTION A-A



TYPE	A	B	C	D	R ₁
B-5.30 (B-6J2)	300 (12)	25 (1)	150 (6)	150 (6)	25 (1)
B-15.45 (B-6J8)	450 (18)	25 (1)	150 (6)	150 (6)	25 (1)
B-5.60 (B-6.24)	600 (24)	25 (1)	150 (6)	150 (6)	25 (1)
B-22.30 (B-9J2)	300 (12)	50 (2)	125 (5)	225 (9)	25 (1)
B-22.45 (B-9J8)	450 (18)	50 (2)	125 (5)	225 (9)	25 (1)
B-22.60 (B-9.24)	600 (24)	50 (2)	125 (5)	225 (9)	25 (1)



TYPE	A	B	C	D	R ₁	R ₂
M-5J5 (M-2.06)	150 (6)	50 (2)	100 (4)	50 (2)	75 (3)	50 (2)
M-5.30 (M-2J2)	300 (12)	50 (2)	100 (4)	50 (2)	75 (3)	50 (2)
M-10.6 (M-4.06)	150 (6)	100 (4)	75 (3)	100 (4)	75 (3)	NA
M-10.30 (M-4J2)	300 (12)	100 (4)	75 (3)	100 (4)	75 (3)	NA
M-10.45 (M-4J8)	450 (18)	100 (4)	75 (3)	100 (4)	75 (3)	NA

NOTES:

1. FOR WIDER CROSS SECTIONS/ADDITIONAL LANES, A MEDIAN GATE MAY BE NECESSARY. COORDINATE WITH THE RAILROAD.
2. USE M-2 WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH AND M-4 WHERE THE SPEED LIMIT IS LESS THAN 45 MPH.
3. MINIMUM MEDIAN WIDTH IS 8FT-6IN. BACK OF CURB TO BACK OF CURB.
4. ADDITIONAL MARKING OR SIGNING FOR ESCAPE AREA MAY BE UTILIZED (I.E. PAINTED CURBING: YELLOW FOR MEDIAN, WHITE FOR OUTSIDE).
5. IF DRIVEWAYS ARE OPPOSITE THE ESCAPE AREA, M-4 CURB SHOULD BE UTILIZED.

RECOMMENDED GUIDELINES

MEDIAN AND CURB TREATMENTS
AT
HIGHWAY-RAIL INTERSECTIONS

ILLINOIS COMMERCE COMMISSION
ILLINOIS DEPARTMENT OF TRANSPORTATION



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

BDE PROCEDURE MEMORANDUM

NUMBER: 45-05

SUBJECT: Design Guidance for Pre-Signals at Railroad Grade Crossings
Near Signalized Highway Intersections

DATE: June 1, 2005

This memorandum augments information in Section 36-8 of the BDE Manual. The additions discussed will be incorporated in the BDE manual in a future update of the BDE Manual.

Background

In response to the Fox River Grove, Illinois train-bus crash in October 1995, the attached guidance was developed in consultation with the Illinois Commerce Commission and the U.S. Department of Transportation's Grade Crossing Safety Task Force. This treatment has been studied, accepted and recommended in various publications from the Federal Highway Administration, the Institute of Transportation Engineers, and the Transportation Research Board.

Applicability

The procedures in this memorandum are applicable to projects which include the proposed installation of pre-signal traffic signals at railroad grade crossings near signalized highway intersections.

Procedures

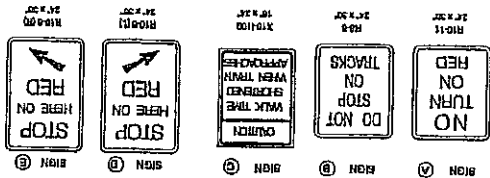
Pre-signals should be installed at a grade crossing when the distance between the stop bar and the nearest rail is 56 feet (17.1 meters) or less. If the crossing is on a State highway, or if a high percentage of multi-unit vehicles cross the tracks, then pre-signals should be installed when the distance between the stop bar and the nearest rail is 81 feet (24.7 meters) or less.

Engineer of Design and Environment

A handwritten signature in cursive script, reading "Michael L. Horne".

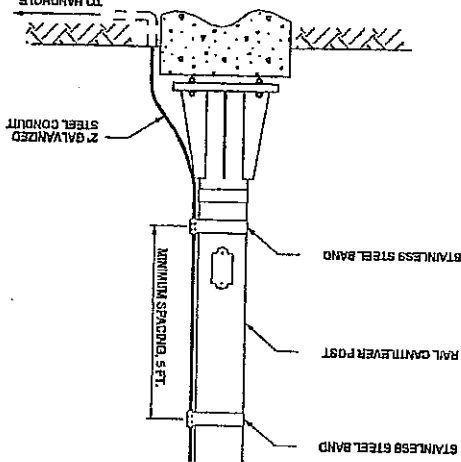
Attachment

TYPICAL TRAFFIC PRE-SIGNALS AT
RAILROAD GRADE CROSSING

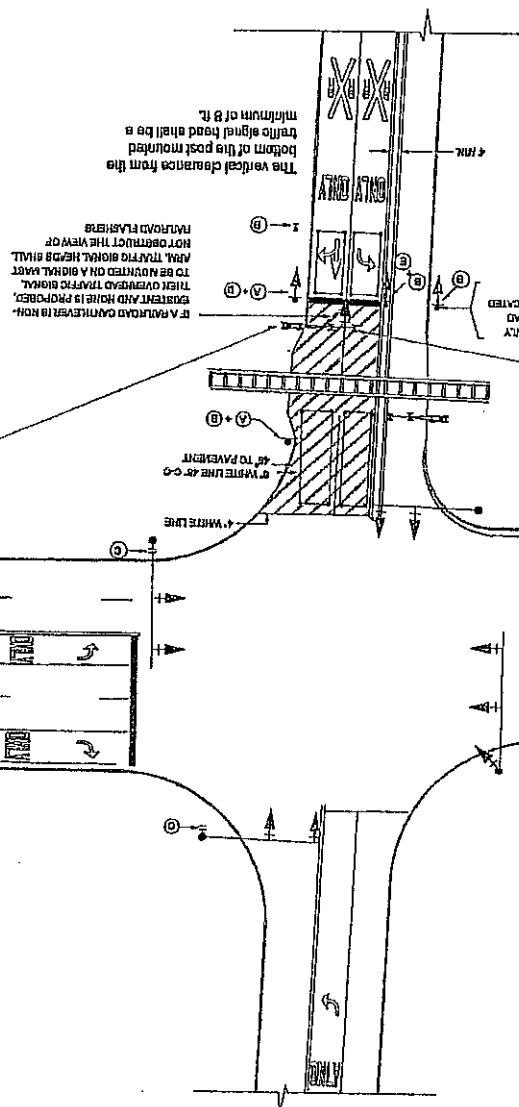


USE NON-CONDUCTIVE SPACERS BETWEEN THE TRAFFIC SIGNAL EQUIPMENT AND THE RAILROAD CANTILEVER TO PREVENT DISSIMILAR METAL CORROSION.

SIGNAL CONDUIT CONNECTION
TO RAIL CANTILEVER DETAIL



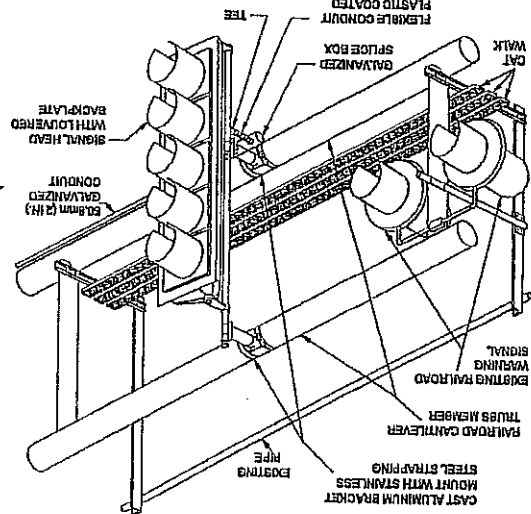
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



IF A ROADWAY CANNOT BE MAINTAINED AT AN EQUIV-
ALENT AND HOLES ARE PROPOSED,
THEY SHOULD BE MAINTAINED TO BE MAINTAINED
AND, THEREFORE, THE ROADWAY SHOULD NOT
BE MAINTAINED AT AN EQUIV-ALENT AND HOLES
SHOULD BE MAINTAINED AT AN EQUIV-ALENT AND
HOLES SHOULD BE MAINTAINED AT AN EQUIV-ALENT

APPLICABLE ONLY
IF A SIGNAL HEAD
CANNOT BE LOCATED
IN THE MEDIAN

RAILROAD CAN LIVER SIGNAL HEAD MOUNTING
CONDUCTIVE SPACERS BETWEEN THE TRAFFIC SIGNAL EQUIPMENT
RAILROAD CAN LIVER TO PREVENT DISMILAR METAL CORROSION.
N.T.S.





Illinois Department of Transportation

Office of the Secretary
2300 South Dirksen Parkway / Springfield, Illinois / 62764
Telephone 217/782-5557

April 20, 2007

Honorable Kennard Franks
Mayor
203 W. Front
P.O. Box 446
Annawan, Illinois 61234

Dear Mayor Franks:

Thank you for your village's request for Economic Development Program (EDP) funds for roadway improvements to provide access to the Patriot Renewable Fuel's Company which plans to build a 100 million gallon ethanol plant in the eastern portion of the village. It is our understanding that this company plans to create 45 new employment opportunities. This will help maintain a strong economic employment base for the village of Annawan and Henry County.

We are pleased to inform you that the Illinois Department of Transportation (IDOT), acting on behalf of Governor Rod R. Blagojevich, will commit \$2 million for eligible improvement costs on the US 6 component of your request. This \$2 million represents the highest level of EDP participation. Therefore, funding in excess of this amount will be at the cost of Annawan. This commitment is predicated on the construction of the Industrial Road extension.

Our district office in Dixon will contact you to formulate a state/local joint agreement. Due to funding availability, the village of Annawan will need to establish an IDOT approved schedule for this improvement. Please note that the joint agreement must be fully executed prior to advertisement of this project for engineering or construction. Failure to do so may jeopardize IDOT's ability to reimburse the village for eligible expenses.

Thank you for your interest in the EDP. If you have any questions regarding this commitment or the requirements mentioned above, please call Keith Sherman, of this department, at (217) 782-0378.

Enclosure

bcc: Acting Secretary Sees
Dick Smith
Kathy Ames
Darrell Lewis, Rm. 205
George Ryan, Region 2
Jason Nelson, Dist. 2

Ross Monk, Dist. 2
Dave Loos, DCEO
Jeff South - Attn: Joe On
Chuck Schmitt - Attn: Traci Sisk
Keith Sherman
Denise Todd

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Sincerely,

SS 4-24-07

Milton R. Sees
Acting Secretary

EDP PROJECT SUMMARY**Location:** Henry County**Companies:** Patriot Renewable Fuels**Project Sponsor:** Village of Annawan**State Funding**

The Illinois Department of Transportation (DEPARTMENT) will provide funding for eligible roadway-related items for the new construction of a roadway and improvements to the intersection of US 6 to serve the above-mentioned company. Funding will include preliminary engineering, construction, construction engineering and contingencies in an amount up to but not exceeding \$2 million from the Economic Development Program (EDP).

These improvements must be constructed to State Motor Fuel Tax standards. All necessary land acquisition or building demolition to construct this roadway will be the responsibility of the village of Annawan. All EDP commitments are capped. For this project, the EDP funding cap is \$2 million.

Public Act 93-552

The department is required to comply with Public Act 93-552, the Corporate Accountability for Tax Expenditures Act. The act requires any recipient business which is the intended beneficiary of EDP assistance submit an initial report stating that business' commitment to specific employment levels and to subsequently report the progress of the development and specified employment commitments for the project on an annual basis.

The company will be required to fill out an annual Reporting Form for five full calendar years after the execution date of the local intergovernmental agreement. All annual progress reports will be completed on-line through the Department of Commerce and Economic Opportunity. For the purpose of the EDP, the Patriot Renewable Fuels Company will be required to enter into agreement with village of Annawan to ensure that these reporting requirements are fulfilled. These agreements should be in place prior to the execution of the intergovernmental agreement between the DEPARTMENT and village of Annawan. The agreement between the village of Annawan and the business must be in place prior to the disbursement of any EDP funds.

EDP Payback Provision

The commitment of EDP funds is contingent upon the fulfillment of the commitments to business investments and job creation/retention represented to the DEPARTMENT by the village of Annawan and recipient businesses. Any substantial modifications to these commitments, change in location of this facility or the failure of the businesses to make firm commitment to this site will cause the DEPARTMENT's commitment to be reevaluated.

The employment levels committed by the Patriot Renewable Fuels Company must be created within and retained over the five-year reporting period required by Public Act 93-552. If these commitments are not met, the DEPARTMENT will review the project funding provided to the village of Annawan. If reasonable justification for non-performance of the commitments is not provided, the village will be required to repay the EDP funding (\$2 million) to the DEPARTMENT in total or an appropriate pro rata sum commensurate with the circumstances of the situation.